



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/627,544

07/25/2003

Peter W.J. Jones

58096 (71106)

3558

21874

7590

04/17/2008

EDWARDS ANGELL PALMER & DODGE LLP

P.O. BOX 55874

BOSTON, MA 02205

EXAMINER

STREGE, JOHN B

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

04/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/627,544	Applicant(s) JONES ET AL.	
	Examiner JOHN B. STREGE	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/19/08 has been entered.

Response to Amendment/Arguments

2. The amendment submitted 2/19/08 has been entered in full. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bushman USPN 5,452,089.

Regarding claim 1 Bushman discloses a method for detecting an object from its background or surroundings (col. 1 lines 18-22) comprising the steps of: viewing an area with a viewing device (a video camera 51 as seen in figure 4), while selectively and varyingly changing a sensitivity of the viewing device to certain wavelengths of light

(electromagnetic radiation) lying in any one of the ultraviolet (UV) range, the visible range, the near infrared range or the far infrared range (col. 5 lines 3-36); and determining the presence of an object when a visual difference between the object and background is discerned when the sensitivity of the viewing device is changed to a certain mixture of 'wavelengths of light (col. 5 lines 3-43).

Regarding claim 2, Bushman discloses wherein said determining includes determining the presence of an object when a visual difference is observed between the object and the background and when no discernable visual difference is observed when the sensitivity of the viewing device is changed to at least another mixture of wavelengths of light (col. 5 lines 33-43).

Regarding claim 3, Bushman discloses that the light source may be visible light, near infrared, infrared, or ultraviolet.

Regarding claim 4, Bushman wherein said determining includes determining the presence of an object when a visual difference is observed between the object and the background and when no discernable visual difference is observed when the sensitivity of the viewing device is changed to at least another mixture of wavelengths of light (col. 5 lines 33-43).

Claim 11 is similarly analyzed to claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2624

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-10, and 12-14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bushman USPN 5,452,089 in view of Miller USPN 5,940,183 (cited in previous office actions).

Regarding claim 5, Bushman discloses everything as applied above (see claim 3). However, Bushman fails to specifically disclose wherein the filters comprise a plurality of bandpasses wherein each bandpass has a predetermined bandwidth. However, the examiner maintains that it was well known in the art to provide for wherein a filter comprises a plurality of bandpasses wherein each bandpass has a predetermined bandwidth, as taught by Miller.

In the same field of endeavor, Miller discloses a filter wheel comprising a plurality of filter segments wherein each segment has a bandpass with a unique center wavelength, wherein each segment also has a predetermined bandwidth, as disclosed at column 3 lines 8 - column 4 line 36, which reads on "dividing at least a portion of the one of the UV range, the near IR range or the far IR range into one or more viewing bandpasses, each bandpass having a predetermined bandwidth".

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Bushman, by providing for wherein a filter comprises a plurality of bandpasses wherein each bandpass has a predetermined bandwidth, as taught by Miller, for the purpose of capturing a range of wavelengths, by

using bandpasses, instead of single wavelengths, thereby improving the target object detection.

Regarding claim 6, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claims 2 and 5.

Regarding claim 7, Bushman and Miller disclose everything as applied above (see claims 5 and 6). As discussed above, Miller discloses a filter wheel comprising a plurality of filter segments wherein each segment has a bandpass with a unique center wavelength, which reads on "wherein said dividing includes dividing at least a portion of the one of the UV range, the near IR range or the far IR range into a plurality or more viewing bandpasses".

Regarding claim 8, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claims 5 and 7.

Regarding claim 9, Bushman discloses setting the bandwidth so each viewing bandpass has a width that is narrow enough so as to minimize contributions from other areas of the spectral region that would tend to mask the visual difference between the object and the background and wide enough to pass enough light] energy so as to make a difference in a display of a viewing device (col. 5 lines 3-56).

Regarding claim 10, Bushman and Miller disclose everything as applied above (see claims 5 and 6). Miller further discloses where the bandwidths of the bandpasses for the plurality of filter segments are set such that the bandpasses partially overlap, as disclosed at column 4 lines 7-18, which reads on "wherein said dividing includes arranging the viewing bandpasses and setting the bandwidth of adjacent viewing

bandpasses of the one or more viewing bandpasses such that the adjacent viewing bandpasses partially overlap".

Regarding claim 12, Miller discloses a plurality of filters, the filters being configured and arranged so each view a different bandwidth of the one of the ultraviolet (UV) range, the visible range, the near infrared or the far infrared (column 3 lines 8 - column 4 line 36); and Bushman discloses a mechanism for selectively positioned each filter at a light input end of the electro-optical viewing device (see figure 4).

Regarding claim 13, Bushman discloses everything as applied above (see claim 11). As applied above, it would be obvious to modify Bushman by Miller, wherein Bushman and Miller disclose a plurality of filter segments, each configured to view a different bandwidth, wherein the filter segments are rotated in front of the viewing device, which reads on "wherein the mechanism includes: a filter comprised of a plurality of filter segments, the filter segments being configured and arranged so each view a different bandwidth of the one of the ultraviolet (UV) range, the visible range, the near infrared or the far infrared; and a mechanism for one of selectively rotating, shifting or tilting the filter so as to successively position each filter segment at a light input end of the electro-optical viewing device".

Regarding claim 14, Bushman and Miller disclose everything as applied above (see claims 11-13). Bushman discloses as discussed above, wherein the viewing device is a video camera, and further discloses wherein output from the video camera is fed to a television monitor, as seen in figure 4, which reads on "wherein the electro-optical viewing device is one of a monochromatic image viewing device or a color image

viewing device", wherein it is inherent that the video camera and television monitor are either color or monochromatic (black and white).

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bushman in view of Miller further in view of Korniski et al. (US Patent No 6,646,799 previously cited), hereinafter referenced as Korniski

Regarding claim 15, Bushman and Miller disclose everything as applied above (see claims 11-13). However, they fail to specifically disclose where the amount of light in each of the viewing bandpasses is successively and separately added into the image forming sensitivity of the color image viewing device. However, the examiner maintains that it was well known in the art to provide for successively and separately adding multiple viewing bandpasses into the image forming sensitivity of a color image viewing device, as taught by Korniski.

In the same field of endeavor, Korniski discloses a system for combining multiple energy bands to improve scene viewing comprising a system for combining multiple energy bands to improve scene viewing comprising successively and separately adding multiple viewing bandpasses into the image forming sensitivity of a color image viewing device, as disclosed at column 5 lines 4-45, which reads on "wherein the electro-optical viewing device is a color image viewing device and the an amount of light in each of the viewing bandpasses is successively and separately added into the image forming sensitivity of the color image viewing device".

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Bushman and Miller, by providing for where the amount of light in each of the viewing bandpasses is successively and separately added into the image forming sensitivity of the color image viewing device, as taught by Korniski, for the purpose of allowing the user to view the scene under any combination of filters at a given point in time, i.e. only IR, only visible, or combination (column 5 lines 32-45).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B. STREGE whose telephone number is (571)272-7457. The examiner can normally be reached on Monday-Friday between the hours of 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John B Strege/
Temporary Partial Sig. Examiner, Art Unit 2624